

**REMARKS/ARGUMENTS**

The claims have been amended by rewriting Claims 1, 6 and 10 and withdrawing Claims 2-5 and 9. Claim 1 has been amended to include all the limitations of withdrawn Claims 2-5 and 9. Claims 1, 6-8, and 10-12 are being prosecuted in the application.

Reconsideration of this application is respectfully requested.

**Claim Rejections - 35 U.S.C. § 102(b)**

Claims 1-9 and 11-12 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Polyzos, et al. ("Enhancing Wireless Internet Links for Multimedia Services," Workshop on Mobile Multimedia Communications, October 12-14, 1998).

Applicants, however, strongly disagree and respectfully traverse the rejections.

In short, MPEP § 2131 provides that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Contrary to the Examiner's statement that all elements are disclosed in Polyzos, elements relating to a acknowledgement requirement, encoding, repeater, and communication unit are not disclosed in Polyzos. Thus, the rejection is unsupported by the art and should be withdrawn.

Polyzos is a publication which *generally and at a high level* describes "a novel link layer protocol architecture that aims to enhance the performance of Internet protocols over wireless links." Polyzos, Abstract. A careful reading of this reference fails to disclose each and every element as set forth in the claimed invention. Thus, contrary to what is stated in section 3 of the Office Action (pages 2 – 7), the Polyzos publication does not teach the elements of the claimed invention.

First, the Examiner cites page 4, left column, last paragraph of Polyzos for support of his rejection of claimed element "determining an acknowledgement requirement

corresponding to the type of service" which is found in Claims 1, 6-8, and 10-12. The Examiner states that on page 4, left column, last paragraph "Polyzos discloses static rules can be set up to match IPv4 Type of Service (ToS) bits, IPv6 flow IDs, or protocols/port pairs (denoting applications that use well known ports), with underlying service." Office Action, pg. 3. The Examiner is correct that the cited passage discloses "static rules ...," but there is no teaching of "determining ... an acknowledgement requirement." In contrast, there is no mention at all of "acknowledgement," much less "an acknowledgement requirement."

Second, the Examiner cites page 4, right column, last paragraph of Polyzos for support of his rejection of claimed element "performing, by the receiving device, the acknowledgement requirement corresponding to the type of service, based on an error status of the slot" which is found in Claims 1, 6-8, and 10-12. The Examiner states that on page 4, right column, last paragraph "Polyzos discloses if a service needs to retransmit packet (ARQ) or encode them (FEQ), or both, it simply places the appropriate packets in its queue." Office Action, pg. 3. The Examiner is correct that the cited passage discloses "ARQ ... FEQ," but there is no teaching of "performing ... the acknowledgement requirement." In contrast, there is no mention at all of "acknowledgement," much less "an acknowledgement requirement."

Third, the Examiner cites page 5, left column, last paragraph of Polyzos for support of his rejection of claimed element "performing, by the receiving device, the acknowledgement requirement corresponding to the type of service, based on an error status of the slot further comprising a) not acknowledging reception of the slot associated with the minimize-delay service; and b) acknowledging reception of slots associated with the maximize-reliability service, if the slot is received without error" which is found in Claims 1, 6-8, and 10-12. The Examiner states that on page 5, left column, last paragraph "Polyzos discloses for each service separately the link layer tracks and reports performance metrics such as reliability, delay and throughput, updating them regularly by combining

current and past measurements and the measurements are used in error recovery.” Office Action, pg. 4. The cited passage does discloses that the link layer tracks and reports performance metrics, but there is no teaching of “performing … the acknowledgement requirement.”

Fourth, the Examiner cites page 3, left column of Polyzos for support for his rejection of claimed element “sending a slot comprising at least a portion of the packet from a sending device to a receiving device further comprising: a) if the packet is associated with the first type of service, encoding the at least a portion of the packet using an error correcting code of a first rate; and b) if the packet is associated with the second type of service, encoding the at least a portion of the packet using an error correcting code of a second time” which is found in Claims 1, 6-8, and 10-12. The Examiner states that on page 3, left column “Polyzos discloses it is preferable to offer QoS level appropriate to each type of higher level appropriate to each type of higher layer protocol or application.” Office Action, pg. 6. The Examiner is correct that the cited passage discloses “QoS,” but there is no teaching of “encoding.” Thus, there is no teaching of the claimed element.

Fifth, the Examiner cites page 1, left column and the Introduction of Polyzos for support of his rejection of Claims 11 and 12. The Examiner states that on page 1, left column and the Introduction of Polyzos, Polyzos further discloses wherein the sending device comprises a repeater (or communication unit) and the receiving device comprises a communication unit (or repeater). Office Action, pg. 6-7. While Polyzos in general describes wireless and mobile communications, there is no teaching of the specific elements of “repeater” and “communication unit.” Just because the publication is directed to wireless and mobile communications does not mean that the publication discloses the elements relating to “repeater” and “communication unit.”

Based upon the lack of teachings described above, the Applicants insist that Polyzos fails to describe the invention of the present application. Since Polyzos fails to disclose essential limitations of the claimed invention, namely elements relating to a

acknowledgment requirement, encoding, repeater, and communication unit, there is no anticipation under 35 U.S.C. § 102, because the exclusion of a claimed element from the prior art reference is enough to negate anticipation by that reference. For these reasons, the Applicants assert that the claims in the present application are not anticipated by Polyzos and may therefore be passed to allowance.

**Claim Rejections - 35 U.S.C. § 103(a)**

Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Polyzos where the Examiner has taken Official Notice that the limitation "wherein the error correcting code of the first rate comprises a rate  $\frac{3}{4}$  convolutional code and the error correcting code of the second rate comprises a rate  $\frac{1}{2}$  convolutional code" is obvious. Applicants, however, strongly disagree and respectfully traverse the rejections.

In short, MPEP § 2144.03 states that "[i]t would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known." As stated in Applicants' specification, it is well-known that "convolutional coding is a way to make the transmission of information across a wireless link more resistant to errors." Specification, pg. 12 lines 19-21. However, it is not well-known to utilize the rates as in the claimed limitation "wherein the error correcting code of the first rate comprises a rate  $\frac{3}{4}$  convolutional code and the error correcting code of the second rate comprises a rate  $\frac{1}{2}$  convolutional code." The Applicants assert that the Examiner may be mistaken in taking Official Notice of the limitation "wherein the error correcting code of the first rate comprises a rate  $\frac{3}{4}$  convolutional code and the error correcting code of the second rate comprises a rate  $\frac{1}{2}$  convolutional code." Otherwise, the Applicants respectfully request that the Examiner cite a prior art reference stating that the claimed limitation is well-known.

Further, MPEP § 2141.03 requires that to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art."

*In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). As mentioned above in the discussion of the 102(b) rejection, all the limitations of the claimed invention are not taught or suggested by Polyzos. Thus, the rejection is unsupported by the art and should be withdrawn.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim, unless Applicant has argued herein that such amendment was made to distinguish over a particular reference or combination of references.

The Applicants believe that the subject application, as amended, is in condition for allowance. Such action is earnestly solicited by the Applicants.

Respectfully submitted,

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